CLAIMS: -

- A pharmaceutical composition for protection of an animal against a disease-causing agent, the composition comprising
 a non-infectious nucleic acid construct encoding a recombinant antibody to that agent.
 - 2. A pharmaceutical composition according to claim 1 wherein the animal is a mammal or a fish.

10

- 3. A pharmaceutical composition according to either of claims 1 or 2 wherein the animal has a deficient immune system.
- 15 4. A pharmaceutical composition according to any preceding claim wherein the disease-causing agent is a pathogen, an allergen or a toxic substance.
- 5. A pharmaceutical composition according to any preceding 20 claim wherein the protection is prophylactic.
 - 6. A pharmaceutical composition according to any preceding claim wherein the encoded recombinant antibody is derived from an antibody raised against the disease-causing agent.

25

7. A pharmaceutical composition according to any preceding claim wherein the encoded antibody molecule comprises variable domains of immunoglobulin Heavy and Light chain genes linked together by a linker sequence.

30

8. A pharmaceutical composition according to any preceding claim, wherein the nucleic acid construct further comprises a gene sequence encoding a secretion signal peptide.

BEST AVAILABLE CC.



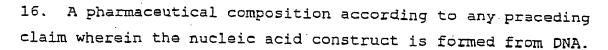
- 9. A pharmaceutical composition according to any praceding claim comprising genes encoding antibody molecules to several different epitopes of the disease-causing agent.
- 5 10. A pharmaceutical composition according to any praceding claim comprising a gene-expression library encoding antibodies to the disease-causing agent.
- 11. A pharmaceutical composition according to claim 10 10 wherein the gene expression library encodes single-chain antibody molecules to the disease-causing agent.
- 12. A pharmaceutical composition according to any preceding claim wherein the encoded recombinant antibody is a virus15 neutralising antibody.
 - 13. A pharmaceutical composition according to claim 12 wherein the encoded virus-neutralising antibody is single chain molecule.

20

- 14. A pharmaceutical composition according to any preceding claim including a nucleic acid construct encoding a viral haemorrhagic septicaemia virus VHSV-neutralising monoclonal antibody 3F1H10 with two amino acids substituents in the H-
- 25 chain gene respectively Asn 35a to Thr and Lys 64 to Thr and with the secretion signal of rainbow trout transforming growth factor (TGF-beta) added to the 5' end of the gene.
- 15. A pharmaceutical composition according to any of claims 30 4 to 11 wherein when the disease-causing agent is an allergen the antibody molecule is derived from an antibody raised against IgE molecules.

BEST AVAILABLE CO

15



- 17. A pharmaceutical composition according to any preceding 5 claim wherein the composition is in the form of a vaccine, dosage form, cream, cintment, liquid or paint.
 - 18. A pharmaceutical composition according to any preceding claim wherein the composition is for delivery by injection, 10 spray or gene gun.
 - 19. A method of treating an animal comprising administering thereto a pharmaceutical composition as claimed in any of claims 1 to 18.

20. A pharmaceutical composition according to any preceding claim, for use to confer protection against a disease caused by a pathogen, an allergen or a toxin.

BEST AVAILABLE COPY